AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A gene detection method comprising detecting one or more gene polymorphisms selected from the group consisting of the below-described gene polymorphisms (a)~~1~~ through (m)~~13~~, to thereby detect an allergic predisposition of a subject:

(a)~~1.~~ a polymorphism of an interleukin 12 receptor β2 chain gene specified by mutation of a region encoding position 313 arginine of an interleukin 12 receptor β2 chain protein encoded by the gene;

(b)~~2.~~ a polymorphism of an interleukin 12 receptor β2 chain gene specified by mutation of a region encoding position 604 alanine of an interleukin 12 receptor β2 chain protein encoded by the gene;

(c)~~3.~~ a polymorphism of an interleukin 12 receptor β2 chain gene specified by lack of a region encoding position 619 glycine and subsequent amino acid residues of an interleukin 12 receptor β2 chain protein encoded by the gene;

(d)[[4.]] a polymorphism of an interleukin 12 receptor β2 chain gene specified by mutation of a region encoding position 720 histidine of an interleukin 12 receptor β2 chain protein encoded by the gene;

(e)~~5.~~ a polymorphism of an interleukin 12 receptor β1 chain gene specified by mutation of a region encoding position 361 arginine of an interleukin 12 receptor β1 chain protein encoded by the gene;

(f)~~6.~~ a polymorphism of an interleukin 12 receptor β1 chain gene specified by mutation of a region encoding position 365 methionine of an interleukin 12 receptor β1 chain protein encoded by the gene;

(g)~~7.~~ a polymorphism of an interleukin 12 receptor β1 chain gene specified by mutation of a region encoding position 378 glycine of an interleukin 12 receptor β1 chain protein encoded by the gene;

(h)~~8.~~ a polymorphism of an interleukin 18 receptor α chain gene specified by lack of position 317 alanine of an interleukin 18 receptor α chain protein encoded by the gene;

(i)~~9.~~ a polymorphism of an interferon γ receptor 1 chain gene specified by mutation of a region encoding position 467 leucine of an interferon γ receptor 1 chain protein encoded by the gene;

(j)~~10.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 3,696 guanine by another base, the guanine being in intron 1 of the gene;

(k)~~11.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 3,757 cytosine by another base, the cytosine being in intron 1 of the gene;

(l)~~12.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 12,359 thymine by another base, the thymine being in intron 4 of the gene; and

(m)~~13.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 16,078 cytosine by another base, the cytosine being in intron 6 of the gene.

2. (currently amended) The gene detection method according to claim 1, wherein said gene polymorphism (a)~~1~~, which is specified by mutation of a region encoding position 313 arginine of an interleukin 12 receptor β2 chain protein encoded by an interleukin 12 receptor β2 chain gene, is specified such that the position 937 polymorphic base of the interleukin 12 receptor β2 chain gene is guanine, and the position 313 polymorphic amino acid residue of the interleukin 12 receptor β2 chain protein is glycine.

3. (currently amended) The gene detection method according to claim 1~~ or 2~~, wherein said gene polymorphism (b)~~2~~, which is specified by mutation of a region encoding position 604 alanine of an interleukin 12 receptor β2 chain protein encoded by an interleukin 12 receptor β2 chain gene, is specified such that the position 1,811 polymorphic base of the interleukin 12 receptor β2 chain gene is thymine, and the position 604 polymorphic amino acid residue of the interleukin 12 receptor β2 chain protein is valine.

4. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 3~~, wherein said gene polymorphism (c)~~3~~, which is specified by lack of a region encoding position 619 glycine and subsequent amino acid residues of an interleukin 12 receptor β2 chain protein encoded by an interleukin 12 receptor β2 chain gene, is specified by lack of the bases at positions 1,856 to 1,946 of the interleukin 12 receptor β2 chain gene.

5. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 4~~, wherein said gene polymorphism (d)[[4]], which is specified by mutation of a region encoding position 720 histidine of an interleukin 12 receptor β2 chain protein encoded by an interleukin 12 receptor β2 chain gene, is specified such that the position 2,159 polymorphic base of the interleukin 12 receptor β2 chain gene is guanine, and the position 720 polymorphic amino acid residue of the interleukin 12 receptor β2 chain protein is arginine.

6. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 5~~, wherein said gene polymorphism (e)~~5~~, which is specified by mutation of a region encoding position 361 arginine of an interleukin 12 receptor β1 chain protein encoded by an interleukin 12 receptor β1 chain gene, is specified such that the position 1,081 polymorphic base of the interleukin 12 receptor β1 chain gene is thymine, and the position 361 polymorphic amino acid residue of the interleukin 12 receptor β1 chain protein is tryptophan.

7. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 6~~, wherein said gene polymorphism (f)~~6~~, which is specified by mutation of a region encoding position 365 methionine of an interleukin 12 receptor β1 chain protein encoded by an interleukin 12 receptor β1 chain gene, is specified such that the position 1,094 polymorphic base of the interleukin 12 receptor β1 chain gene is cytosine, and the position 365 polymorphic amino acid residue of the interleukin 12 receptor β1 chain protein is threonine.

8. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 7~~, wherein said gene polymorphism (g)~~7~~, which is specified by mutation of a region encoding position 378 glycine of an interleukin 12 receptor β1 chain protein encoded by an interleukin 12 receptor β1 chain gene, is specified such that the position 1,132 polymorphic base of the interleukin 12 receptor β1 chain gene is cytosine, and the position 378 polymorphic amino acid residue of the interleukin 12 receptor β1 chain protein is arginine.

9. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 8~~, wherein said gene polymorphism (h)~~8~~, which is specified by lack of position 317 alanine of an interleukin 18 receptor α chain protein encoded by an interleukin

18 receptor α chain gene, is specified by lack of the bases at positions 950 to 952 of the interleukin 18 receptor α chain gene.

10. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 9~~, wherein said gene polymorphism (i)~~9~~, which is specified by mutation of a region encoding position 467 leucine of an interferon γ receptor 1 chain protein encoded by an interferon γ receptor 1 chain gene, is specified such that the position 1,400 polymorphic base of the interferon γ receptor 1 chain gene is cytosine, and the position 467 polymorphic amino acid residue of the interferon γ receptor 1 chain protein is proline.

11. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 10~~, wherein said gene polymorphism (j)~~10~~ is specified such that the position 3,696 polymorphic base of the interleukin 12•p40 subunit gene, which base is in intron 1 of the gene, is adenine.

12. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 11~~, wherein said gene polymorphism (k)~~11~~ is specified such that the position 3,757 polymorphic base of the interleukin 12•p40 subunit gene, which base is in intron 1 of the gene, is thymine.

13. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 12~~, wherein said gene polymorphism (l)~~12~~ is specified such that the position 12,359 polymorphic base of the interleukin 12•p40 subunit gene, which base is in intron 4 of the gene, is guanine.

14. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 13~~, wherein said gene polymorphism (m)~~13~~ is specified such that the position 16,078 polymorphic base of the interleukin 12•p40 subunit gene, which base is in intron 6 of the gene, is thymine.

15. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 14~~, wherein, in the case of detection of a gene polymorphism in introns of the interleukin 12•p40 subunit gene, a polymorphism of the position 3,696 base or position 3,757 base is detected in intron 1 of the gene.

16. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 15~~, wherein, in the case of detection of a gene polymorphism in introns of the interleukin 12•p40 subunit gene, a polymorphism of the position 12,359 base is detected in intron 4 of the gene, or a polymorphism of the position 16,078 base is detected in intron 6 of the gene.

17. (currently amended) The gene detection method according to claim 1~~any of claims 1 through 16~~, which employs the Invader assay for detecting a gene polymorphism.

18. (currently amended) A gene detection kit comprising an element for detecting one or more gene polymorphisms selected from the group consisting of the below-described gene polymorphisms (a)~~1~~ through (m)~~13~~:

(a)~~1.~~ a polymorphism of an interleukin 12 receptor β2 chain gene specified by mutation of a region encoding position 313 arginine of an interleukin 12 receptor β2 chain protein encoded by the gene;

(b)~~2.~~ a polymorphism of an interleukin 12 receptor β2 chain gene specified by mutation of a region encoding position 604 alanine of an interleukin 12 receptor β2 chain protein encoded by the gene;

(c)~~3.~~ a polymorphism of an interleukin 12 receptor β2 chain gene specified by lack of a region encoding position 619 glycine and subsequent amino acid residues of an interleukin 12 receptor β2 chain protein encoded by the gene;

(d)[[4.]] a polymorphism of an interleukin 12 receptor β2 chain gene specified by mutation of a region encoding position 720 histidine of an interleukin 12 receptor β2 chain protein encoded by the gene;

(e)~~5.~~ a polymorphism of an interleukin 12 receptor β1 chain gene specified by mutation of a region encoding position 361 arginine of an interleukin 12 receptor β1 chain protein encoded by the gene;

(f)~~6.~~ a polymorphism of an interleukin 12 receptor β1 chain gene specified by mutation of a region encoding position 365 methionine of an interleukin 12 receptor β1 chain protein encoded by the gene;

(g)~~7.~~ a polymorphism of an interleukin 12 receptor β1 chain gene specified by mutation of a region encoding position 378 glycine of an interleukin 12 receptor β1 chain protein encoded by the gene;

(h)~~8.~~ a polymorphism of an interleukin 18 receptor α chain gene specified by lack of position 317 alanine of an interleukin 18 receptor α chain protein encoded by the gene;

(i)~~9.~~ a polymorphism of an interferon γ receptor 1 chain gene specified by mutation of a region encoding position 467 leucine of an interferon γ receptor 1 chain protein encoded by the gene;

(j)~~10.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 3,696 guanine by another base, the guanine being in intron 1 of the gene;

(k)~~11.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 3,757 cytosine by another base, the cytosine being in intron 1 of the gene;

(l)~~12.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 12,359 thymine by another base, the thymine being in intron 4 of the gene; and

(m)~~13.~~ a polymorphism of an interleukin 12•p40 subunit gene specified by substitution of position 16,078 cytosine by another base, the cytosine being in intron 6 of the gene.

19. (original) The gene detection kit according to claim 18, which employs the Invader assay for detecting a gene polymorphism.